

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

10/532785

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
13 May 2004 (13.05.2004)

PCT

(10) International Publication Number  
WO 2004/039433 A2

(51) International Patent Classification<sup>7</sup>: A61M  
(21) International Application Number: PCT/US2003/034622  
(22) International Filing Date: 29 October 2003 (29.10.2003)  
(25) Filing Language: English  
(26) Publication Language: English  
(30) Priority Data:  
60/422,366 29 October 2002 (29.10.2002) US  
(63) Related by continuation (CON) or continuation-in-part  
(CIP) to earlier application:  
US 60/422,366 (CIP)  
Filed on 29 October 2002 (29.10.2002)

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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**Published:**

— without international search report and to be republished  
upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: AN INTRACARDIAC CATHETER AND METHOD OF USE

(57) **Abstract:** The invention provides a cardiac balloon catheter and methods of using the same in the process of venography in the coronary sinus and pulmonary vein of the heart. The catheter has a flexible body containing a curved distal portion, at least three lumens running the length of the body each with a port of entry at the proximal end, an inflatable balloon located proximally of the curved distal portion of the body and port of exit of at least one of the lumens located at a distal end. Optionally, the catheter may contain up to ten pairs of bipolar electrodes. The invention provides methods for using the catheter to generate a geographic map of a venous structure of the heart and to generate an electrical map of the electrical conduction patterns of the heart for locating an aberrant electrical conduction pattern. Additionally, the invention catheter can be used in placement of pacemaker leads in the left ventricle for biventricular pacing of the heart.

WO 2004/039433 A2